

**Mr. Steve Chambers**  
**Army Space Modeling & Simulation**  
**Focus Area Collaborative Team**  
**(Space M&S FACT)**  
**25 SEP 02**

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## ***“Secure the High Ground”***



# Agenda

- **Background & Organization**
- **Process Overview**
- **Results & Recommendations**
- **Summary**



# Space M&S

## • Space Mission Areas†

- Force Enhancement
- Force Application
- Space Control
- Space Support

## • Army Space M&S

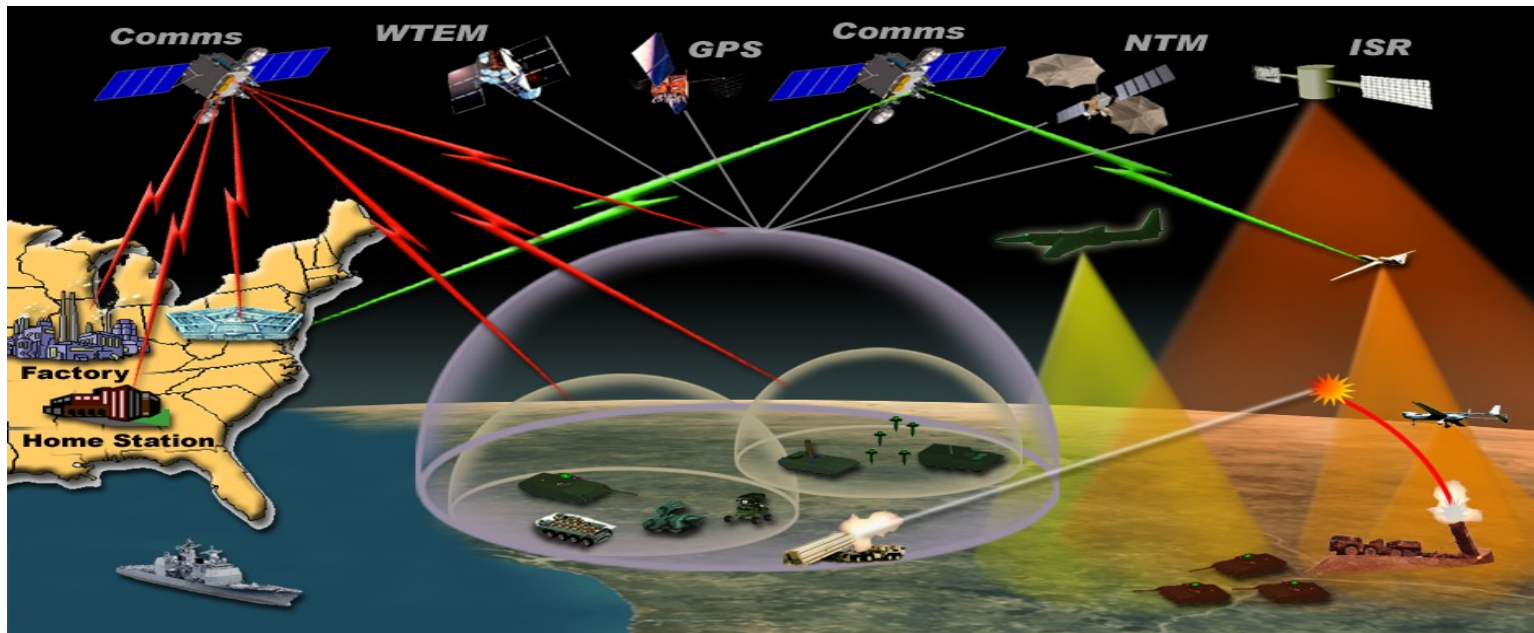
- Entities, Attributes, & Behaviors Based in Space
- Information Derived from or Communicated through Space
- Interactions among Orbiting and/or Terrestrial Systems
- Space Environment
- Supporting Algorithm & Data Development

## • Space Related Functions

- Space-based ISR
- Space Communications
- Early Warning
- Blue Force Tracking
- Space Derived Weather
- Information Operations
- Space Weather
- GPS/Position & Navigation
- Protection of Critical Space Systems
- Prevention of Unauthorized Access
- Negation of Hostile Systems
- Surveillance of Space
- Computer Network Attack
- Computer Network Defense
- Space Lift
- Satellite Operations



# Space Enables the Objective Force†

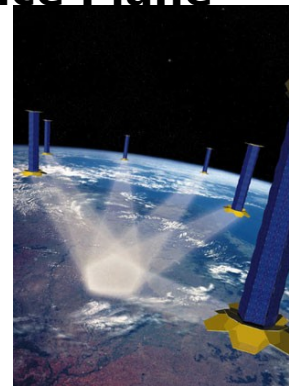


- Access to a Global Information Grid of Knowledge & Services
  - Common Operational Picture
    - Continuous Operations in Deployed Mobile Battle Command Centers
    - Home Station Operations Centers (Reach Back)
    - Intelligence, Surveillance, & Reconnaissance
  - Multinational & Interagency Interoperability
  - Self-healing, Self-configuring Networks
  - Joint Interdependent Battle Command
  - Communicate Off the Ramp
  - En-route Mission Planning
  - Distributed Effects Planning
  - Virtual Teaming
  - Network Fires
- † Derived from Battle Command Paper & Globalization (14 JUN 02)
- 02 09 17 Space FACT AMSEC.ppt
- 02 09
- “Secure the High Ground”



# Objective Force Relevant Space Systems

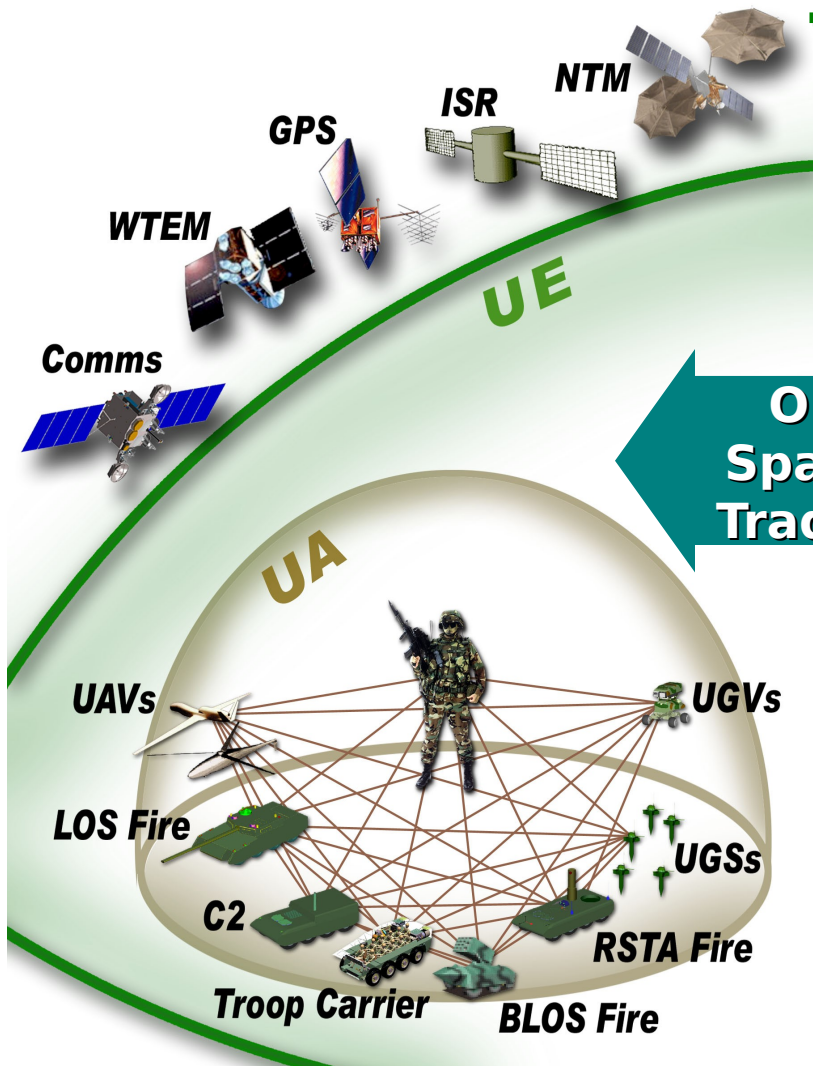
- Micro-satellite Cluster      TechSat 21 Demo      2005
- Elastic Bandwidth      Wideband Gap Filler 2005  
Laser Communications      2005
- Servicing Satellite      Orbital Express Demo      2005
- Ground Moving Target Indication      Space  
Radar      2008
- Jam-proof Navigation      GPS III      2010
- Space Operations Vehicle      Space Plane      2014







## The Issue



- The OF requires linkage from the satellites down to the soldier

### The Gap—Space Representation in Army M&S

- Army models & simulations lack sufficient representation of space or space effects on land-component forces.

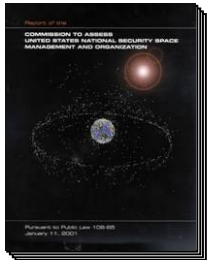
Current & Planned Space Representations Place Army & Objective Force Goals at Risk



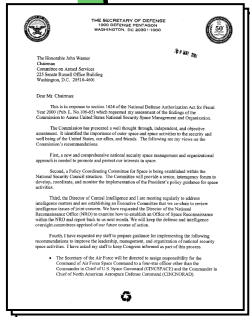
# Army Space and Missile Defense Command



## Tasker



**11 JAN 01  
Space  
Commission  
Report**



**08 MAY 01  
Secretary  
Rumsfeld's  
Assessment**



**04 SEP 01  
Commander, USASMDC  
Brief to Under Secretary of the  
Army**

02 09



DAMO-SSD

MEMORANDUM THRU DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS  
DIRECTOR OF THE ARMY STAFF

FOR COMMANDER, U.S. ARMY TRAINING AND DOCTRINE COMMAND |  
COMMANDER, U.S. ARMY MATERIEL COMMAND  
MILITARY DEPUTY TO THE ASSISTANT SECRETARY OF THE ARMY

DEPARTMENT OF THE ARMY  
OFFICE OF THE  
DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS  
400 ARMY PENTAGON  
WASHINGTON, DC 20310-0400

**03 OCT 01  
DA DCSOPS Tasker**

2. **Army Space requirements and capabilities are not captured in current models and simulations. As a result, there are no robust analyses to support space acquisition and develop space requirements. Additionally, the training of space battle staffs is lacking. As the Army transforms, space capabilities will play an increasingly significant role.**

to direct the preparation of a roadmap or action plan for space representation in  
Army M&S and Space and Missile Defense Command (SMDC) will lead this  
effort.

- a. **Commander, Space and Missile Defense Command:**
- (1) **Army lead** for an M&S Integration Concept **Team** (ICT) to prepare the action plan.
  - (2) **Present** an In-Progress Review to the Spring 2002 Army Models & Simulations Executive Council (AMSEC) meeting and a **coordinated roadmap recommendation to AMSEC** during their Fall 2002 meeting.
  - (3) Roadmap plan should **include timelines**, estimated **costs**, recommended **proponents and requirements**, if appropriate.

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recommended proponents and requirements, if appropriate.

**The need for remediation was apparent, &  
the decision to proceed was made.**

**"Secure the High  
Ground"**

